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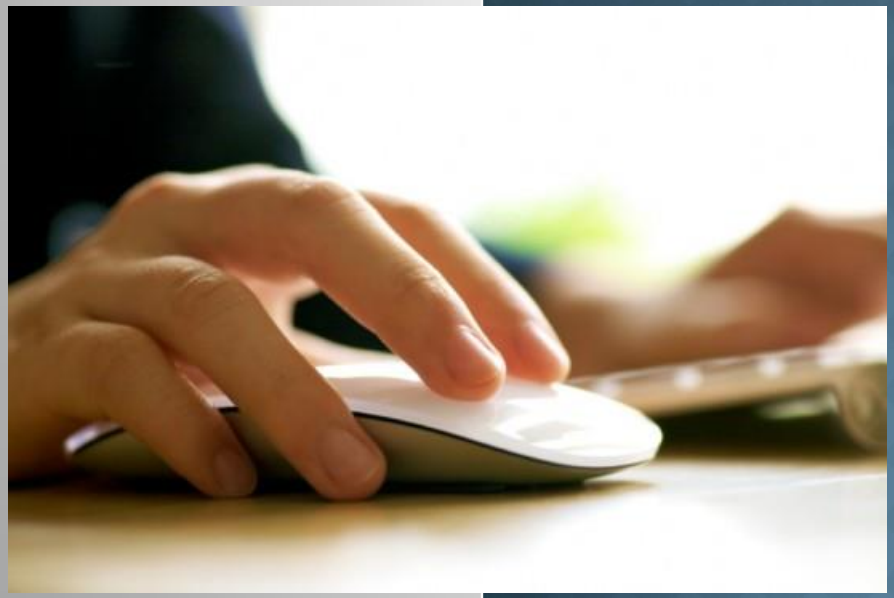
SCIENCEBASE DATA RELEASE LANDING PAGES USABILITY STUDY



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October 2016

U.S. Department of the Interior
U.S. Geological Survey

Slides prepared by Nina Chkhenkeli

2015 Hydrologic and soil data collected in limestone cedar glades at Stones River National Battlefield, Tennessee

Go to ▾ View ▾

This collection of geospatial datasets includes 16 point feature class files and associated FGDC-compliant metadata representing data collected in 2012 and 2013 as part of a study of the hydrology and soil biology of limestone cedar glades. Data was collected at quadrat locations within 12 study glades at Stones River National Battlefield outside Murfreesboro, Tennessee. The ground surface was characterized by assessing quadrat percentages of gravel, cobbles, flagstones, bare soil, exposed bedrock, graminoids, forbs, shrubs, trees, lichens, and Nostoc cyanobacteria. Canopy coverage was estimated using zonal analysis of digital photographs. Observations of soil water content were made using portable time-domain reflectometry (TDR) probes and by collecting soil samples for thermogravimetric analysis. Temperature and relative humidity were measured at the ground surface and soil temperature was measured at 4 cm depth. Soil respiration (Co2 efflux) was measured with a Li-Cor Infrared Gas Analyzer. Precipitation values were spatially interpolated based on precipitation measurements from four rain gages installed at Stones River National Battlefield. Soil samples were collected for laboratory analysis of soil pH, soil organic matter as determined by loss-on-ignition, and soil nitrate levels. Additionally, soil samples were used to perform plate-dilution frequency assays (to generate a most probable number of culturable heterotrophic microbes per gram of dry soil) and were inoculated onto BiologTM EcoPlates (to derive substrate utilization profiles for soil microbial communities). Based on community level physiological profiling (CLPP), average well color development (AWCD) was calculated as an overall indicator of

... show more ...

Map

- View in Interactive Mapper

Communities

- USGS Data Release Products
- USGS Lower Mississippi-Gulf Water Science Center

Related Items

Parent Item

USGS Lower Mississippi-Gulf Water Science Center

Child Items : (16)

- Average Well Color Development (AWCD) data based on Community Level Physiological Profiling (CLPP) of soil samples from 120 point locations within limestone cedar glades at Stones River National Battlefield near Murfreesboro, Tennessee
- Ground-surface characterization data for 150 point locations within limestone cedar glades at Stones River National Battlefield near Murfreesboro, Tennessee
- Ground-surface temperature data for 120 point locations within limestone cedar glades at Stones River National Battlefield near Murfreesboro, Tennessee
- Interpolated precipitation data (first interval) for 120 point locations within limestone cedar glades at Stones River National Battlefield near Murfreesboro, Tennessee
- Interpolated precipitation data (second interval) for 120 point locations within limestone cedar glades at Stones River National Battlefield near Murfreesboro, Tennessee
- Plate Dilution Frequency Assay (PDFA) data for soil samples from for 120 point locations within limestone cedar glades at Stones River National Battlefield near Murfreesboro, Tennessee

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USER-FRIENDLY LANDING PAGE

End users will:

- Know that the DOI has resolved to the appropriate target landing page:
- View metadata for the data.
- Easily understand where and how to download data.
- Be able to determine if a web service(s) exists for the data.
- Notice if the data are part of a larger collection:
  - View a description of the larger collection as whole
  - Access other data sets that are part of the collection.
- Know how to cite the data.
- See immediately if there is a newer version of the data set.

FOCUS OF THE TESTING

- Ease of identifying downloadable datasets within a data release
- Ease of downloading data
- Ease of navigating between child and parent items

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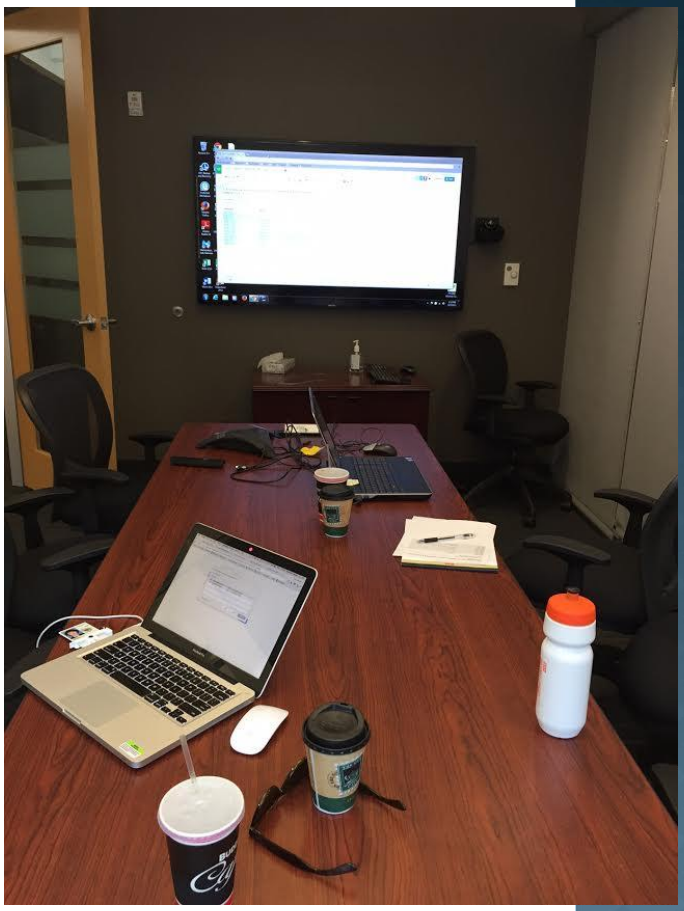
TEST SETUP

- Testing performed at Oak Ridge National Lab (ORNL)
- Proctored in person by Rachel Volentine (UTK) & observed by Brandon Serna (USGS) at ORNL
- Think-aloud protocol used
- Test were recorded using MORAE Recorder (screencast, audio & video of participant)



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TEST LOGISTICS

- 15 min
- Pre-test questionnaire
- Tasks (user performs tasks presented in the test scenario)
- Post-tasks assessment

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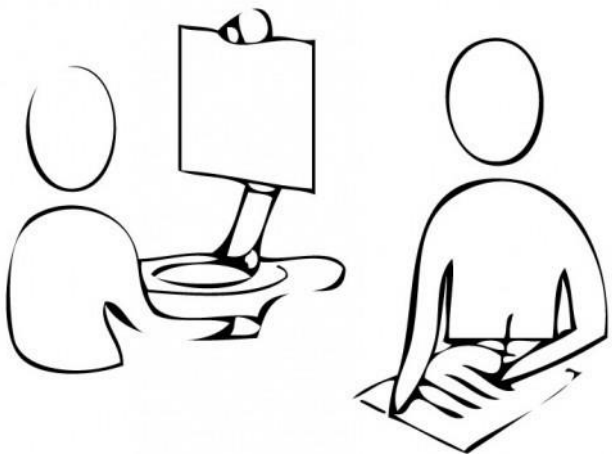
PARTICIPANTS



- 9 participants
  - P1 Data modeler
  - P2 Geoinformatics specialist
  - P3 Data scientist
  - P4 Spatial analysis and remote sensing
  - P5 Software engineer
  - P6 GIS and data management, web development
  - P7 Application development
  - P8 Environmental data coordinator
  - P9 Scientist researching climate change impact

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USER TASKS

- **Task 1:** Under Currently Highlighted USGS Data you see– 2013 Raw Ground Penetrating Radar Data on Alaska's Glaciers. Follow the link to find out what datasets are available for download for that study in ScienceBase.
  - Take a few moments.
  - What were you expecting to find on the highlighted data page when you were following the link? Does this page have the information you were expecting to find?
  - Are there any parts of the page that you do not understand?

- **Task 2:** How many datasets are available for download in this study? How many of these downloadable datasets include an XML metadata file? Once you have found these answers you may "End Task".

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USER TASKS (CONT.)

- **Task 3:** Open: https://www.sciencebase.gov/catalog/item/55afcc4ae4b09a3b01b51d89. From this page: find and download the dataset which was a part of the same study and has data on soil temperature at 4 centimeters depth for 120 point locations within limestone cedar glades at Stones River National Battlefield near Murfreesboro, Tennessee.

POST-TASK QUESTIONNAIRE

1. Please rank the following statements from 1 (disagree strongly) to 5 (agree strongly).

Disagree Strongly	Disagree	Neutral	Agree	Agree Strongly
1	2	3	4	5

- I thought the site was complex
- I thought the interface was easy to use
- The presentation of the data was professional and appealing
- Other users would learn quickly how to get data
- I felt confident using the system (there was nothing confusing/not very intuitive about the UI)
- It was easy to locate data I needed

2. If there was only one thing you could change about the interface of the system, and specifically the pages that you have just used, what would that be?

3. Any additional suggestions you might have about the system:

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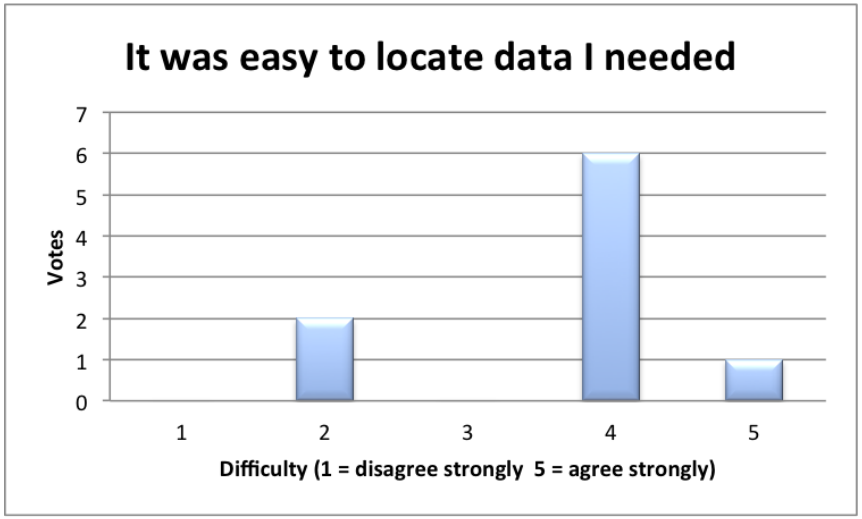
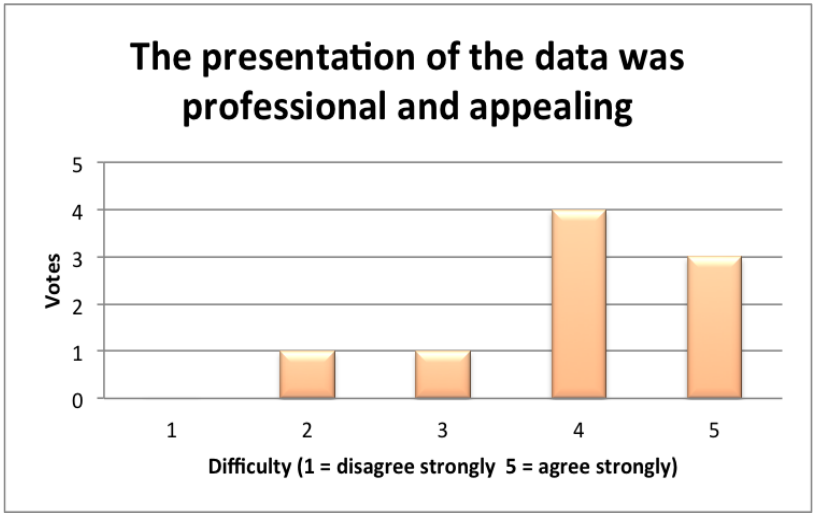
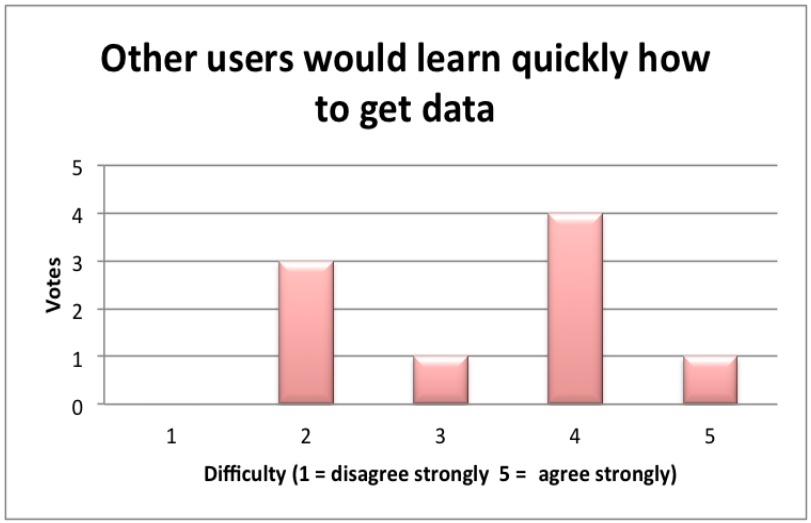
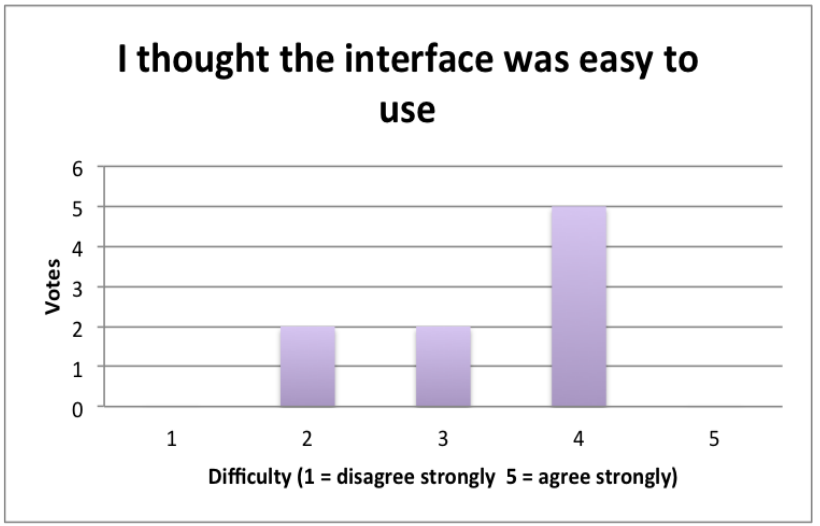
GOOD NEWS . . . AT ODDS WITH BEHAVIOR?









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USER NEEDS VS USER OPINIONS

- “Pay attention to what users do, not what they say.” -Jacob Nielsen
- Advantage of having a usability test - data based on observing behavior, navigation patterns, mental schema instead of opinions.
- “If I had asked people what they wanted, they would have said faster horses.” –Henry Ford

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Geospatial database of the study boundary, sampled sites, watersheds, and riparian zones developed for the U.S. Geological Survey Midwest Stream Quality Assessment

Go to View Manage

Citation

Nakagaki, N., Qi, S.L., Frey, J.W., Button, D.T., Baker, N.T., Burley, T.E., and Van Metre, P.C., 2016, Geospatial database of the study boundary, sampled sites, watersheds, and riparian zones for U.S. Geological Survey Midwest Stream Quality Assessment: U.S. Geological Survey data release, http://dx.doi.org/10.5066/F7CN7202.

Summary

In 2013, the first of several Regional Stream Quality Assessments (RSQA) was done in the Midwest United States. The Midwest Stream Quality Assessment (MSQA) was a collaborative study by the U.S. Geological Survey (USGS) National Water Quality Assessment (NAWQA), the USGS Columbia Environmental Research Center, and the U.S. Environmental Protection Agency (USEPA) National Rivers and Streams Assessment (NRSA). One of the objectives of the RSQA, and thus the MSQA, is to characterize the relationships between water-quality stressors and stream ecology and to determine the relative effects of these stressors on aquatic biota within the streams (U.S. Geological Survey, 2012). To meet this objective, a framework of fundamental geospatial data was required to develop physical and anthropogenic characteristics of the study region, sampled sites and corresponding watersheds, and riparian zones. This dataset is composed of the four fundamental geospatial data layers that were developed for the Midwest study: 1) study boundary, 2) sampled sites, 3) watershed boundaries, and 4) riparian-zone boundaries.

References cited:

Nakagaki, N., Qi, S.L., and Baker, N.T., 2016, Selected environmental characteristics of sampled sites, watersheds, and riparian zones for the U.S. Geological Survey Midwest Stream Quality Assessment: U.S. Geological Survey data release, http://dx.doi.org/10.5066/F77W699S.

U.S. Geological Survey, 2012, The Midwest stream quality assessment: U.S. Geological Survey Fact Sheet 2012-3124, 2 p.

Child Items (4)

- Riparian-Zone Boundaries for the U.S. Geological Survey Midwest Stream Quality Assessment
- Sampled Sites for the U.S. Geological Survey Midwest Stream Quality Assessment
- Study Boundary for the U.S. Geological Survey Midwest Stream Quality Assessment
- Watershed Boundaries for the U.S. Geological Survey Midwest Stream Quality Assessment

Map »

Spatial Services

ScienceBase WMS :

https://www.sciencebase.gov/catal

Communities

- USGS California Water Science Center
  - Remove
- USGS Data Release Products

Associated Items

Associate an Item

Tags

Types : Map Service, OGC WFS Layer, OGC WMS Layer, OGC WMS Service